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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/505,311	08/20/2004	Hiroshi Nishimura	13006.104	5421

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EXAMINER	
WYROZEBSKI LEE, KATARZYNA I	
ART UNIT	PAPER NUMBER
1796	
MAIL DATE	DELIVERY MODE
02/04/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/505,311	NISHIMURA ET AL.	
	Examiner	Art Unit	
	Katarzyna Wyrozebski	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 November 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3,4 and 9-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3,4 and 9-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

In view of applicant's request for continued prosecution following rejection is non-final in view of amendments submitted with RCE. The applicants have removed from claims limitation of aliphatic polyester, wherein claims now recite combination of polylactic acid, aromatic/aliphatic copolyester and talc.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 3, 4, 9-13are rejected under 35 U.S.C. 102(b) as being clearly anticipated by KHEMANI (US 6,573,340).

The prior art of KHEMANI discloses composition comprising hard polymers, soft polymers and filler.

Hard polymers of KHEMANI have Tg of at least 10°C (Abstract) and include (in preferred embodiment) BIOMAX (col. 8) and polylactic acid (col. 9). Polylactic acids of KHEMANI are higly crystalline, which also signifies that is has to be of high optical purity

Soft polymers of KHEMANI have Tg not greater than 0°C (Abstract). The most common tradename utilized throughout teachings of KHEMANI including examples is ecoflex, which is soft aromatic/aliphatic polyester having Tg of preferably below -30°C (col. 10).

Fillers of KHEMANI can be utilized in amounts as low as 3 pbw, and examples usually utilize talc in 3.6-30 wt %. The prior art of KHEMANI teaches that the particle size of the filler has to be at least 10% smaller than the thickness of the film. Col. 23 of KHEMANI further teaches that the particle size of the talc is approximately 3.8 microns.

Amounts – as per teachings of KHEMANI, hard polymers make up the major portion of the composition. Per col. 4, the amount of hard polymer is in a range of 20-90 wt% balance being soft polymer.

The prior art of KHEMANI also teaches additives such as ethylene-bis-stearamide or oleamide. Although the prior art of KHEMANI discloses these two compounds as plasticizers, it should be noted that the courts have held that "a compound and all its properties are mutually inseparable", *In re Papesch*, 315F.2d 381, 137 USPQ 42, 51 (CCPA 1963). Further, attention is drawn to MPEP 2112.01, which states that "products of identical chemical composition can not have mutually exclusive properties. A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present.", *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Process- the composition of KHEMANI is processed utilizing melt-extrusion into films or sheets, which then can be blown into a container. Although the prior art of KHEMANI does not specifically disclose the temperature at which PLA composition can be treated such is considered intrinsic for following reason: Although the Tg of PLA of KHEMANI is in a range of 50-60°C, its melting point is as high as 178°C (col. 9). In order to reform the sheet into stretched film or into a container, one of ordinary skill in the art would not melt PLA but soften

it. Therefore temperature of less than 178°C would have been the temperatures utilized to soften PLA of KHEMANI.

In the light of the above disclosure the prior art of KHEMANI anticipates claims rejected above.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over BASTIOLI (US 6,787,613) in view of OBUCHI (US 5,916,950).

The prior art of BASTIOLI discloses composition and process of making sheets, which are then stretched to make oriented films using extrusion processes. Composition of BASTIOLI comprises: polylactic acid, aromatic/aliphatic polyester, aliphatic polyester and inorganic filler.

Polylactic acid of BASTIOLI has optical clarity of at least 75% (col. 2) and it can comprise of L-lactic component, D-lactic component or combination of the two.

Aromatic/aliphatic copolyesters are Ecoflex polymers produced by BASF, which are also the same polyesters utilized in applicant's invention. Therefore all their properties are intrinsic as they are also properties of the tradename (col. 2, examples).

Aliphatic polyesters are one having Mw>40,000.

Fillers (col. 5) are utilized in amount of 1-30 wt % and in particular (viewed as preferred embodiment) comprise of inorganic compounds of silica, calcium carbonate, talc, kaolin, zinc oxide or wollastonite.

The prior art of BASTIOLI does not specifically disclose the polymer ratio of the present invention, however such ratios are considered obvious for the following reasons:

The amount of each polymer affects properties of the composition such as elastic modulus, break load and elongation. From Tables 1 and 2 (col. 7-8) of BASTIOLI it is evident, that increasing the amount of polylactic acid increases the elastic modulus, which in turn will affect properties directly proportional to it such as impact resistance. Therefore one of ordinary skill in the art would know that if a film is to have higher elastic modulus and impact resistance, the amount of polylactic acid has to increase and amount of any additional polyesters decrease. As a result properties of elastic modulus and impact resistance will become obvious in the light that polymers of the prior art are also polymers taught by the invention at hand.

"[A]nalysis [of whether the subject matter of claim would have been obvious] need no seek out precise teachings directed to the specific subject matter of the challenged claim, for a court to take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR Int'l v. Teleflex, Inc.* 127 S. Ct 1727, 1740-1741, 82 USPQ2d 1385, 1396 (2007) (*quoting In re Kahn,* 441, F.3d 977, 988, 78 USPQ2d 1329, 1336-37 (Fed. Cir. 2006)). *See DyStar Textilfarben GmBH & Co. Deutschland KG v. C.H. Patric Co.,* 464 F.3d 1356, 1361, 80 USPQ2d 1641, 1645 (Fed. Cir 2006) ("The motivation need not be found in the references sought to be combined, but may be found in any number of sources, including common knowledge, the prior art as a whole, or the nature of the problem itself."); *In re Bozek,* 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969)("Having established that this knowledge was in the art, the examiner could then properly rely, as put forth by the solicitor, on a conclusion of obviousness 'from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference.'"); *In re Hoeschelle,* 406 F.2d 1403, 1406-407, 160 USPQ 809, 811-12 (CCPA 1969) ("[I]t is proper to take into account

not only specific teachings of the references but also the inference which one skilled in the art would reasonable be expected to draw therefrom …"). The analysis supporting obviousness, however, should be made explicit and should "identify reason that would have prompted a person of ordinary skill in the relevant field to combine elements" in manner claimed. *KSR,* 127 S. Ct. at 1739, 82 USPQ2d at 1396.

The prior art of BASTIOLI discloses use of talc, however does not teach use of particle size.

With respect to the above difference, the prior art of OBUCHI is utilized to show the particle size of fillers utilized in formation of films. As it was indication in the FAOM the particle size of TALC RF is 1-10 microns, which further encompasses the claims of the instant invention.

The use of such fillers in the amounts taught by both OBUCHI and BASTIOLI results in reduced molding time and accelerating crystallization rate. Therefore the properties such as heat of fusion, crystallization rate and reheat temperatures are also filler dependent. Since the prior art disclosure of BASTIOLI teaches use of such talc in the same amount as that claimed in the invention at hand, the above mentioned properties are also rendered obvious.

In the light of the above discussion, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to vary the ratios of polymeric components in the teachings of BASTIOLI to produce a film having desired mechanical properties. One of ordinary skill in the art would also know about effects of adding talc having particle size as disclosed by OBUCHI, which include increased rate of crystallization.

5. Claims 3, 4, 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over KHEMANI (US 6,573,340).

In the event the applicants successfully traverses examiner's reasoning of processing temperatures following rejection is also restated as obvious.

Hard polymers of KHEMANI have Tg of at least 10°C (Abstract) and include (in preferred embodiment) BIOMAX (col. 8) and polylactic acid (col. 9). Polylactic acids of KHEMANI are higly crystalline, which also signifies that is has to be of high optical purity

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Applicant's arguments are also considered moot since new prior art is applied.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katarzyna Wyrozebski whose telephone number is (571) 272-1127. The examiner can normally be reached on Mon-Thurs 8:30 AM-2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Katarzyna Wyrozebski/
Primary Examiner, Art Unit 1796

January 29, 2008